

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A self setting calcium phosphate cement comprising:
 - (i) a powdered component selected from the group consisting of:
 - (a) calcium phosphate, dicalcium phosphate anhydrous, dicalcium phosphate dihydrate, α -tricalcium phosphate, tetracalcium phosphate, hydroxyapatite, octacalcium phosphate, ~~or~~ substituted forms thereof, or mixtures thereof;
 - (b) a carbonate, silicate, nitrate, oxide, ~~or~~ sulphate ~~and/or~~ a salt of calcium, zirconium, aluminium, titanium or silicon, or mixtures thereof; ~~or~~ and
 - (c) mixtures of (a) and (b) thereof,said powdered component having an average particle size d_{50} of less than 15 μm ,
and
 - (ii) a calcium phosphate based powder selected from the group consisting of tetracalcium phosphate, α -tricalcium phosphate, hydroxyapatite, monocalcium phosphate monohydrate, monocalcium phosphate anhydrous and ~~or~~ mixtures thereof, said powder having an average particle size d_{50} greater than that of the powdered component,
said powdered component and said calcium phosphate based powder being suspended in water containing a dissolved zeta potential increasing additive in an amount of from 0.1 to 2 Mol per litre of water and in sufficient quantity to increase the zeta potential of the suspended particles to at least -30 mV, and wherein the zeta potential increasing additive is chosen to be compatible with the setting pH of the same calcium phosphate cement without the zeta potential increasing additive.
2. (Original) A cement as claimed in claim 1, wherein the d_{50} of the calcium phosphate based powder is from 1.5 to 10 times greater than the d_{50} of the powdered component.
3. (Currently Amended) A cement as claimed in claim 1, wherein the zeta potential increasing additive is an oligocarboxylic acid compound selected from the group consisting of a group I metal salt, ~~or~~ a group II metal salt, an ammonium salt, and ~~or~~ a mixed salt.

4. (Original) A cement as claimed in claim 3, wherein the oligocarboxylic acid compound has two or three carboxyl groups.

5. (Previously Presented) A cement as claimed in claim 3 wherein the oligocarboxylic acid compound has one or more hydroxyl groups.

6. (Currently Amended) A cement as claimed in claim 3 wherein the oligocarboxylic acid compound is a salt of citric acid, tartaric acid ~~and~~ or malic acid.

Claim 7 (Cancelled).

8. (Previously Presented) A cement as claimed in claim 6 wherein said salt is trisodium citrate, disodium malate or disodium tartrate.

9. (Previously Presented) A cement as claimed in claim 1, wherein the zeta potential increasing additive is in sufficient quantity to increase the zeta potential of the calcium phosphate particles to at least -40 and preferably at least -50 mV.

10. (Previously Presented) A cement as claimed in claim 1, wherein the zeta potential increasing additive is present in an amount of from 0.2 to 1 M per litre.

11. (Currently Amended) A cement as claimed in claim 1, wherein the powdered component has a d_{50} of no more than $10\text{ }\mu\text{m}$, ~~and preferably no more than $5\text{ }\mu\text{m}$.~~

Claims 12-13 (Cancelled).

14. (Previously Presented) A cement as claimed in claim 1, wherein the calcium phosphate based powder has a d_{50} of at least $3\text{ }\mu\text{m}$.

Claim 15 (Cancelled).

16. (Previously Presented) A cement as claimed in claim 1, wherein the calcium phosphate based powder is mechanically activated.

17. (Previously Presented) A cement as claimed in claim 1, wherein the volume ratio of the calcium phosphate based powder to the powdered component is in the range of from 50:50 to 95:5.

18. (Previously Presented) A cement as claimed in claim 1, wherein the powdered component constitutes no more than 40% by volume of the calcium phosphate based powder.

19. (Original) A cement as claimed in claim 18, wherein the powdered component constitutes no more than 30% by volume of the calcium phosphate based powder

20. (Original) A cement as claimed in claim 19, wherein the powdered component constitutes from 10 to 25% by volume of the calcium phosphate based powder.

Claims 21-30 (Cancelled).

31. (Previously Presented) A self setting calcium phosphate cement comprising:

(i) a powdered component, said powdered component having an average particle size d_{50} of less than 15 μm , and

(ii) a calcium phosphate based powder, said powder having an average particle size d_{50} greater than that of the powdered component,

said powdered component and said calcium phosphate based powder being suspended in water containing a dissolved zeta potential increasing additive in an amount of from 0.1 to 2 Mol per litre of water and in sufficient quantity to increase the zeta potential of the suspended particles to at least -30 mV, and wherein the zeta potential increasing additive is chosen to be compatible with the setting pH of the same calcium phosphate cement without the zeta potential increasing additive and wherein neither said powdered component nor said calcium phosphate based powder is β -tricalcium phosphate.

32. (Currently Amended) A self setting calcium phosphate cement comprising:

(i) a powdered component selected from the group consisting of:

(a) calcium phosphate, dicalcium phosphate anhydrous, dicalcium phosphate dihydrate, α -tricalcium phosphate, tetracalcium phosphate, hydroxyapatite, octacalcium phosphate, or substituted forms thereof, or mixtures thereof;

(b) a carbonate, silicate, nitrate, oxide, or sulphate and/or a salt of calcium, zirconium, aluminium, titanium or silicon, or mixtures thereof; or and

(c) mixtures of (a) and (b) thereof,

said powdered component having an average particle size d_{50} of less than 15 μm ,

and

(ii) a calcium phosphate based powder selected from the group consisting of tetracalcium phosphate, α -tricalcium phosphate, hydroxyapatite, monocalcium phosphate monohydrate, monocalcium phosphate anhydrous and or mixtures thereof, said powder having an average particle size d_{50} greater than that of the powdered component,

said powdered component and said calcium phosphate based powder being suspended in water containing a dissolved zeta potential increasing additive in an amount of from 0.1 to 2 Mol per litre of water and in sufficient quantity to increase the zeta potential of the suspended particles to at least -30 mV, and wherein the zeta potential increasing additive is an oligocarboxylic acid compound selected from the group consisting of a group I or group II metal salt, an ammonium salt or a mixed salt.

33. (New) A cement as claimed in claim 11, wherein the powdered component has a d_{50} of no more than 5 μm .